US006261834B1

(12) **United States Patent**
Srivastava

(10) **Patent No.: US 6,261,834 B1**
(45) **Date of Patent: *Jul. 17, 2001**

(54) **VECTOR FOR GENE THERAPY**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **07/982,193**

(22) Filed: **Nov. 25, 1992**

Related U.S. Application Data

(63) Continuation-in-part of application No. 07/789,917, filed on Nov. 8, 1991, now Pat. No. 5,252,479.

(30) **Foreign Application Priority Data**

Nov. 6, 1992 (WO) PCT/US92/09769

(51) **Int. Cl.**[7] **C12N 15/861**; C12N 5/16

(52) **U.S. Cl.** **435/320.1**; 435/325; 435/372

(58) **Field of Search** 435/235.1, 240.2, 435/320.1, 325, 372, 375, 456, 462; 536/23.1, 24.1, 24.5

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(57) **ABSTRACT**

Gene therapy involves the transfer and stable insertion of new genetic information into cells. The present invention is directed to safe vectors for gene therapy and thus provides hybrid parvovirus vectors which are capable of site-specific integration into a mammalian chromosome without substantial cytotoxicity, and which direct erythroid cell-specific expression of heterologous genes. The hybrid vector is useful in gene therapy, particularly in the treatment of hemoglobinopathies and other hematopoietic diseases, and in conferring cell-specific multidrug resistance. A method of delivery of constitutive levels of a pharmaceutical product and a method of producing a recombinant protein are also provided.

15 Claims, 20 Drawing Sheets